



## SEQUENCE LISTING

&lt;110&gt; Chen, Lieping

&lt;120&gt; B7-H3 AND B7-H4, NOVEL IMMUNOREGULATORY MOLECULES

&lt;130&gt; 07039-219001

&lt;140&gt; US 09/915,789

&lt;141&gt; 2001-07-26

&lt;150&gt; US 60/220,991

&lt;151&gt; 2000-07-27

&lt;160&gt; 23

&lt;170&gt; FastSEQ for Windows Version 4.0

&lt;210&gt; 1

&lt;211&gt; 316

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 1

Met	Leu	Arg	Arg	Arg	Gly	Ser	Pro	Gly	Met	Gly	Val	His	Val	Gly	Ala
1					5				10					15	
Ala	Leu	Gly	Ala	Leu	Trp	Phe	Cys	Leu	Thr	Gly	Ala	Leu	Glu	Val	Gln
					20				25				30		
Val	Pro	Glu	Asp	Pro	Val	Val	Ala	Leu	Val	Gly	Thr	Asp	Ala	Thr	Leu
					35				40			45			
Cys	Cys	Ser	Phe	Ser	Pro	Glu	Pro	Gly	Phe	Ser	Leu	Ala	Gln	Leu	Asn
					50				55			60			
Leu	Ile	Trp	Gln	Leu	Thr	Asp	Thr	Lys	Gln	Leu	Val	His	Ser	Phe	Ala
65					70				75			80			
Glu	Gly	Gln	Asp	Gln	Gly	Ser	Ala	Tyr	Ala	Asn	Arg	Thr	Ala	Leu	Phe
					85				90			95			
Pro	Asp	Leu	Leu	Ala	Gln	Gly	Asn	Ala	Ser	Leu	Arg	Leu	Gln	Arg	Val
					100				105			110			
Arg	Val	Ala	Asp	Glu	Gly	Ser	Phe	Thr	Cys	Phe	Val	Ser	Ile	Arg	Asp
					115				120			125			
Phe	Gly	Ser	Ala	Ala	Val	Ser	Leu	Gln	Val	Ala	Ala	Pro	Tyr	Ser	Lys
					130				135			140			
Pro	Ser	Met	Thr	Leu	Glu	Pro	Asn	Lys	Asp	Leu	Arg	Pro	Gly	Asp	Thr
					145				150			155			160
Val	Thr	Ile	Thr	Cys	Ser	Ser	Tyr	Arg	Gly	Tyr	Pro	Glu	Ala	Glu	Val
					165				170			175			
Phe	Trp	Gln	Asp	Gly	Gln	Gly	Val	Pro	Leu	Thr	Gly	Asn	Val	Thr	Thr
					180				185			190			
Ser	Gln	Met	Ala	Asn	Glu	Gln	Gly	Leu	Phe	Asp	Val	His	Ser	Val	Leu
					195				200			205			
Arg	Val	Val	Leu	Gly	Ala	Asn	Gly	Thr	Tyr	Ser	Cys	Leu	Val	Arg	Asn
					210				215			220			
Pro	Val	Leu	Gln	Gln	Asp	Ala	His	Gly	Ser	Val	Thr	Ile	Thr	Gly	Gln
					225				230			235			240
Pro	Met	Thr	Phe	Pro	Pro	Glu	Ala	Leu	Trp	Val	Thr	Val	Gly	Leu	Ser

245	250	255
Val Cys Leu Ile Ala Leu Leu Val Ala Leu Ala Phe Val Cys Trp Arg		
260	265	270
Lys Ile Lys Gln Ser Cys Glu Glu Asn Ala Gly Ala Glu Asp Gln		
275	280	285
Asp Gly Glu Gly Glu Gly Ser Lys Thr Ala Leu Gln Pro Leu Lys His		
290	295	300
Ser Asp Ser Lys Glu Asp Asp Gly Gln Glu Ile Ala		
305	310	315

<210> 2  
<211> 951  
<212> DNA  
<213> Homo sapiens

<400> 2

atgctgcgtc ggccggccag ccctggcatg ggtgtgcata tgggtgcagc cctgggagca	60
ctgtggttct gcctcacagg agccctggag gtccaggatcc ctgaagaccc agtgggtggca	120
ctgggtggca ccgatgccac cctgtgtcgc tcccttccc ctgagccctgg cttcagccctg	180
gcacagctca acctcatctg gcagctgaca gataccaaac agctggtgca cagctttgtct	240
gagggccagg accagggcag cgcctatgcc aaccgcacgg ccctttccc ggacactgtcg	300
gcacaggggca acgcatccct gaggctgcag cgcgtgcgtg tggccggacga gggcagcttc	360
acctgtttcg tgagcatccg ggatttcggc agcgctgccc tcagcctgca ggtggccgct	420
ccctactcga agcccagcat gaccctggag cccacaagg acctgcggcc agggacacag	480
gtgaccatca cgtgtcccg ctaccggggc taccctgagg ctgaggtgtt ctggcaggat	540
ggcagggtgt tgccctgac tggcaacgtg accacgtcgc agatggccaa cgagcaggc	600
ttgtttgatg tgcacagcgt cctgcgggtg gtgctgggtg cgaatggcac ctacagctgc	660
ctgggtgcgc accccgtgtc gcagcaggat ggcacaggct ctgtcaccat cacaggcag	720
cctatgacat tccccccaga ggcctgtgg gtgaccgtgg ggctgtctgt ctgtctcatt	780
gcactgctgg tggccctggc tttcgtgtgc tggagaaaaga tcaaacagag ctgtgaggag	840
gagaatgcag gagctgagga ccaggatggg gagggagaag gctccaagac agccctgcag	900
cctctgaaac actctgacag caaagaagat gatggacaag aaatagcctg a	951

<210> 3  
<211> 316  
<212> PRT  
<213> Homo sapiens

<400> 3

Met Leu Arg Arg Arg Gly Ser Pro Gly Met Gly Val His Val Gly Ala		
1 5 10 15		
Ala Leu Gly Ala Leu Trp Phe Cys Leu Thr Gly Ala Leu Glu Val Gln		
20 25 30		
Val Pro Glu Asp Pro Val Val Ala Leu Val Gly Thr Asp Ala Thr Leu		
35 40 45		
Cys Cys Ser Phe Ser Pro Glu Pro Gly Phe Ser Leu Ala Gln Leu Asn		
50 55 60		
Leu Ile Trp Gln Leu Thr Asp Thr Lys Gln Leu Val His Ser Phe Ala		
65 70 75 80		
Glu Gly Gln Asp Gln Gly Ser Ala Tyr Ala Asn Arg Thr Ala Leu Phe		
85 90 95		
Pro Asp Leu Leu Ala Gln Gly Asn Ala Ser Leu Arg Leu Gln Arg Val		
100 105 110		
Arg Val Ala Asp Glu Gly Ser Phe Thr Cys Phe Val Ser Ile Arg Asp		
115 120 125		
Phe Gly Ser Ala Ala Val Ser Leu Gln Val Ala Ala Pro Tyr Ser Lys		
130 135 140		

Pro Ser Met Thr Leu Glu Pro Asn Lys Asp Leu Arg Pro Gly Asp Thr  
 145 150 155 160  
 Val Thr Ile Thr Cys Pro Ser Tyr Arg Gly Tyr Pro Glu Ala Glu Val  
 165 170 175  
 Phe Trp Gln Asp Gly Gln Gly Val Pro Leu Thr Gly Asn Val Thr Thr  
 180 185 190  
 Ser Gln Met Ala Asn Glu Gln Gly Leu Phe Asp Val His Ser Val Leu  
 195 200 205  
 Arg Val Val Leu Gly Ala Asn Gly Thr Tyr Ser Cys Leu Val Arg Asn  
 210 215 220  
 Pro Val Leu Gln Gln Asp Ala His Gly Ser Val Thr Ile Thr Gly Gln  
 225 230 235 240  
 Pro Met Thr Phe Pro Pro Glu Ala Leu Trp Val Thr Val Gly Leu Ser  
 245 250 255  
 Val Cys Leu Ile Ala Leu Leu Val Ala Leu Ala Phe Val Cys Trp Arg  
 260 265 270  
 Lys Ile Lys Gln Ser Cys Glu Glu Asn Ala Gly Ala Glu Asp Gln  
 275 280 285  
 Asp Gly Glu Gly Glu Gly Ser Lys Th: Ala Leu Gln Pro Leu Lys His  
 290 295 300  
 Ser Asp Ser Lys Glu Asp Asp Gly Gln Glu Ile Ala  
 305 310 315

<210> 4  
 <211> 951  
 <212> DNA  
 <213> Homo sapiens

<400> 4  
 atgctgcgtc ggcggggcag ccctggcatg ggtgtgcatt tgggtgcagc cctgggagca 60  
 ctgtggttct gcctcacagg agccctggag gtccagggtcc ctgaagaccc agtgggtggca 120  
 ctgggtggca ccgatgccac cctgtgtgc tccttctccc ctgagcctgg cttagcctg 180  
 gcacagctca acctcatctg gcagctgaca gataccaaac agtgggtgca cagcttgc 240  
 gaggggcagg accagggcag cgcctatgcc aaccgcacgg cccttctccc ggacctgctg 300  
 gcacagggca acgcattccct gaggctgcag cgcgtgcgtg tggcggacga gggcagctc 360  
 acctgcttcg tgagcatccg ggatttcggc agcgtgcgc tcagcctgca ggtggccgct 420  
 ccctactcga agcccgacat gaccctggag cccaaacaagg acctgcccc agggacacg 480  
 gtgaccatca cgtgccccag ctaccggggc taccctgagg ctgagggttt ctggcaggat 540  
 gggcagggtg tggccctgac tggcaacgtg accacgtcgc agatggccaa cgagcaggc 600  
 ttgtttatg tgcacagcgt cctgcgggtg gtgctgggtg cgaatggcac ctacagctgc 660  
 ctgggtgcga accccgtct gcagcaggat ggcacggct ctgtcaccat cacagggcag 720  
 cctatgacat tccccccaga ggcctgtgg gtgaccgtgg ggctgtctgt ctgtctcatt 780  
 gcactgctgg tggccctggc tttcgtgtgc tggagaaaga tcaaacagag ctgtgaggag 840  
 gagaatgcag gagctgagga ccaggatggg gagggagaag gctccaagac agccctgcag 900  
 cctctgaaac actctgacag caaagaagat gatggacaag aaatagcctg a 951

<210> 5  
 <211> 282  
 <212> PRT  
 <213> Homo sapiens

<400> 5  
 Met Ala Ser Leu Gly Gln Ile Leu Phe Trp Ser Ile Ile Ser Ile Ile  
 1 5 10 15  
 Ile Ile Leu Ala Gly Ala Ile Ala Leu Ile Ile Gly Phe Gly Ile Ser  
 20 25 30  
 Gly Arg His Ser Ile Thr Val Thr Val Ala Ser Ala Gly Asn Ile

35	40	45													
Gly	Glu	Asp	Gly	Ile	Leu	Ser	Cys	Thr	Phe	Glu	Pro	Asp	Ile	Lys	Leu
50							55			60					
Ser	Asp	Ile	Val	Ile	Gln	Trp	Leu	Lys	Glu	Gly	Val	Leu	Gly	Leu	Val
65							70			75					80
His	Glu	Phe	Lys	Glu	Gly	Lys	Asp	Glu	Leu	Ser	Glu	Gln	Asp	Glu	Met
	85							90							95
Phe	Arg	Gly	Arg	Thr	Ala	Val	Phe	Ala	Asp	Gln	Val	Ile	Val	Gly	Asn
	100						105								110
Ala	Ser	Leu	Arg	Leu	Lys	Asn	Val	Gln	Leu	Thr	Asp	Ala	Gly	Thr	Tyr
	115						120								125
Lys	Cys	Tyr	Ile	Ile	Thr	Ser	Lys	Gly	Lys	Gly	Asn	Ala	Asn	Leu	Glu
	130						135								140
Tyr	Lys	Thr	Gly	Ala	Phe	Ser	Met	Pro	Glu	Val	Asn	Val	Asp	Tyr	Asn
145							150			155					160
Ala	Ser	Ser	Glu	Thr	Leu	Arg	Cys	Glu	Ala	Pro	Arg	Trp	Phe	Pro	Gln
	165							170							175
Pro	Thr	Val	Val	Trp	Ala	Ser	Gln	Val	Asp	Gln	Gly	Ala	Asn	Phe	Ser
	180							185							190
Glu	Val	Ser	Asn	Thr	Ser	Phe	Glu	Leu	Asn	Ser	Glu	Asn	Val	Thr	Met
	195							200							205
Lys	Val	Val	Ser	Val	Leu	Tyr	Asn	Val	Thr	Ile	Asn	Asn	Thr	Tyr	Ser
	210						215								220
Cys	Met	Ile	Glu	Asn	Asp	Ile	Ala	Lys	Ala	Thr	Gly	Asp	Ile	Lys	Val
225							230				235				240
Thr	Glu	Ser	Glu	Ile	Lys	Arg	Arg	Ser	His	Leu	Gln	Leu	Leu	Asn	Ser
	245							250							255
Lys	Ala	Ser	Leu	Cys	Val	Ser	Ser	Phe	Phe	Ala	Ile	Ser	Trp	Ala	Leu
	260							265							270
Leu	Pro	Leu	Ser	Pro	Tyr	Leu	Met	Leu	Lys						
	275							280							

<210> 6  
 <211> 849  
 <212> DNA  
 <213> Homo sapiens

<400> 6

atggcttccc	tggggcagat	cctcttctgg	agcataatta	gcatcatcat	tattctggct	60
ggagcaattg	caactcatcat	tggcttgggt	atttcaggga	gacactccat	cacagtcact	120
actgtcgcc	cagctggaa	cattggggag	gatggaatcc	tgagctgcac	ttttgaacct	180
gacatcaa	tttctgat	cgtgatacaa	tggctgaagg	aagggtttt	aggcttggtc	240
catgagttca	aagaaggcaa	agatgagctg	tcggagcagg	atgaaatgtt	cagaggccgg	300
acagcagtgt	ttgctgatca	agtgatagt	ggcaatgcct	ctttgcggct	aaaaaacgtg	360
caactcacag	atgctggcac	ctacaaatgt	tatatcatca	cttctaaagg	caagggaaat	420
gctaacc	atgataaaac	tggagccttc	agcatgccgg	aagtgaatgt	ggactataat	480
gccagctcag	agaccttgcg	gtgtgaggt	ccccgatgg	tcccccagcc	cacagtggc	540
tgggcatccc	aagttgacca	gggagccaa	ttctcgaaag	tctccaatac	cagcttgc	600
ctgaactctg	agaatgtgac	catgaagggt	gtgtctgtc	tctacaatgt	tacgatcaac	660
aacacatact	cctgtat	tgaaaatgac	attgccaaag	caacagggg	tatcaaagt	720
acagaatcg	agatcaaaag	goggagtcac	ctacagctgc	taaactcaa	ggcttctctg	780
tgtgtctctt	ctttcttgc	catcagctgg	gcacttctgc	ctctcagccc	ttacactgat	840
ctaaaataa						849

<210> 7  
 <211> 25  
 <212> PRT



Ser Ala Pro His Ser Pro Ser Gln Asp Glu Leu Thr Phe Thr Cys Thr  
 130 135 140  
 Ser Ile Asn Gly Tyr Pro Arg Pro Asn Val Tyr Trp Ile Asn Lys Thr  
 145 150 155 160  
 Asp Asn Ser Leu Leu Asp Gln Ala Leu Gln Asn Asp Thr Val Phe Leu  
 165 170 175  
 Asn Met Arg Gly Leu Tyr Asp Val Val Ser Val Leu Arg Ile Ala Arg  
 180 185 190  
 Thr Pro Ser Val Asn Ile Gly Cys Cys Ile Glu Asn Val Leu Leu Gln  
 195 200 205  
 Gln Asn Leu Thr Val Gly Ser Gln Thr Gly Asn Asp Ile Gly Glu Arg  
 210 215 220  
 Asp Lys Ile Thr Glu Asn Pro Val Ser Thr Gly Glu Lys Asn Ala Ala  
 225 230 235 240  
 Thr

<210> 12  
 <211> 24  
 <212> PRT  
 <213> Homo sapiens

<400> 12  
 Tyr Ser Lys Pro Ser Met Thr Leu Glu Pro Asn Lys Asp Leu Arg Pro  
 1 5 10 15  
 Gly Asp Thr Val Thr Ile Thr Cys  
 20

<210> 13  
 <211> 24  
 <212> PRT  
 <213> Homo sapiens

<400> 13  
 Ser Ser Tyr Arg Gly Tyr Pro Glu Ala Glu Val Phe Trp Gln Asp Gly  
 1 5 10 15  
 Gln Gly Val Pro Leu Thr Gly Asn  
 20

<210> 14  
 <211> 25  
 <212> PRT  
 <213> Homo sapiens

<400> 14  
 Arg Asn Pro Val Leu Gln Gln Asp Ala His Gly Ser Val Thr Ile Thr  
 1 5 10 15  
 Gly Gln Pro Met Thr Phe Pro Pro Glu  
 20 25

<210> 15  
 <211> 288  
 <212> PRT  
 <213> Homo sapiens

<400> 15  
 Met Gly His Thr Arg Arg Gln Gly Thr Ser Pro Ser Lys Cys Pro Tyr

1	5	10	15
Leu	Asn	Phe	Phe
Gln	Leu	Leu	Val
Leu	Ala	Gly	Leu
Ser	His	Phe	Cys
20	25	30	
Ser	Gly	Val	Ile
His	Val	Thr	Lys
Glu	Val	Lys	Glu
Val	Ala	Thr	Leu
35	40	45	
Ser	Cys	Gly	His
Asn	Val	Ser	Val
Glu	Glu	Leu	Ala
Gln	Thr	Arg	Ile
50	55	60	
Tyr	Trp	Gln	Lys
Glu	Lys	Lys	Met
Met	Val	Leu	Thr
65	70	75	80
Met	Asn	Ile	Trp
Trp	Pro	Glu	Tyr
Lys	Asn	Arg	Thr
85	90	95	
Asn	Asn	Leu	Ser
Ile	Val	Ile	Leu
Ala	Leu	Arg	Pro
100	105	110	
Thr	Tyr	Glu	Cys
Val	Val	Leu	Lys
Tyr	Glu	Lys	Asp
115	120	125	
Glu	His	Leu	Ala
Glu	Val	Thr	Leu
Ser	Val	Lys	Ala
130	135	140	
Pro	Ser	Ile	Ser
Asp	Phe	Glu	Ile
145	150	155	160
Ile	Cys	Ser	Thr
Ser	Gly	Gly	Phe
Pro	Glu	Pro	His
165	170	175	
Glu	Asn	Gly	Glu
Glu	Glu	Leu	Asn
Ala	Ile	Asn	Thr
180	185	190	
Pro	Glu	Thr	Glu
Thr	Glu	Leu	Tyr
Ala	Val	Ser	Ser
195	200	205	
Thr	Thr	Asn	His
Ser	Phe	Met	Cys
210	215	220	
Val	Asn	Gln	Thr
Phe	Asn	Trp	Asn
225	230	235	240
Asp	Asn	Leu	Leu
Pro	Ser	Trp	Ala
245	250	255	
Ile	Phe	Val	Ile
Cys	Cys	Leu	Thr
260	265	270	
Glu	Arg	Arg	Asn
Arg	Arg	Glu	Arg
275	280	285	

<210> 16  
 <211> 323  
 <212> PRT  
 <213> Homo sapiens

<400> 16  
 Met Gly Leu Ser Asn Ile Leu Phe Val Met Ala Phe Leu Leu Ser Gly  
 1 5 10 15  
 Ala Ala Pro Leu Lys Ile Gln Ala Tyr Phe Asn Glu Thr Ala Asp Leu  
 20 25 30  
 Pro Cys Gln Phe Ala Asn Ser Gln Asn Gln Ser Leu Ser Glu Leu Val  
 35 40 45  
 Val Phe Trp Gln Asp Gln Glu Asn Leu Val Leu Asn Glu Val Tyr Leu  
 50 55 60  
 Gly Lys Glu Lys Phe Asp Ser Val His Ser Lys Tyr Met Gly Arg Thr  
 65 70 75 80  
 Ser Phe Asp Ser Asp Ser Trp Thr Leu Arg Leu His Asn Leu Gln Ile  
 85 90 95  
 Lys Asp Lys Gly Leu Tyr Gln Cys Ile Ile His His Lys Lys Pro Thr  
 100 105 110  
 Gly Met Ile Arg Ile His Gln Met Asn Ser Glu Leu Ser Val Leu Ala

115	120	125	
Asn Phe Ser Gln Pro Glu Ile Val Pro Ile Ser	Asn Ile Thr Glu Asn		
130	135	140	
Val Tyr Ile Asn Leu Thr Cys Ser Ser Ile His	Gly Tyr Pro Glu Pro		
145	150	155	160
Lys Lys Met Ser Val Leu Leu Arg Thr Lys Asn	Ser Thr Ile Glu Tyr		
165	170	175	
Asp Gly Ile Met Gln Lys Ser Gln Asp Asn Val	Thr Glu Leu Tyr Asp		
180	185	190	
Val Ser Ile Ser Leu Ser Val Ser Phe Pro Asp	Val Thr Ser Asn Met		
195	200	205	
Thr Ile Phe Cys Ile Leu Glu Thr Asp Lys Thr	Arg Leu Leu Ser Ser		
210	215	220	
Pro Phe Ser Ile Glu Leu Glu Asp Pro Gln Pro	Pro Pro Asp His Ile		
225	230	235	240
Pro Trp Ile Thr Ala Val Leu Pro Thr Val Ile	Ile Cys Val Met Val		
245	250	255	
Phe Cys Leu Ile Leu Trp Lys Trp Lys Lys Lys	Arg Pro Arg Asn		
260	265	270	
Ser Tyr Lys Cys Gly Thr Asn Thr Met Glu Arg	Glu Glu Ser Glu Gln		
275	280	285	
Thr Lys Lys Arg Glu Lys Ile His Ile Pro Glu	Arg Ser Asp Glu Ala		
290	295	300	
Gln Arg Val Phe Lys Ser Ser Lys Thr Ser Ser	Cys Asp Lys Ser Asp		
305	310	315	320
Thr Cys Phe			

<210> 17

<211> 290

<212> PRT

<213> Homo sapiens

<400> 17

Met Arg Ile Phe Ala Val Phe Ile Phe Met Thr Tyr Trp His	Leu Leu		
1	5	10	15
Asn Ala Phe Thr Val Thr Val Pro Lys Asp Leu Tyr Val Val	Glu Tyr		
20	25	30	
Gly Ser Asn Met Thr Ile Glu Cys Lys Phe Pro Val Glu Lys	Gln Leu		
35	40	45	
Asp Leu Ala Ala Leu Ile Val Tyr Trp Glu Met Glu Asp Lys	Asn Ile		
50	55	60	
Ile Gln Phe Val His Gly Glu Glu Asp Leu Lys Val Gln His	Ser Ser		
65	70	75	80
Tyr Arg Gln Arg Ala Arg Leu Leu Lys Asp Gln Leu Ser	Leu Gly Asn		
85	90	95	
Ala Ala Leu Gln Ile Thr Asp Val Lys Leu Gln Asp Ala	Gly Val Tyr		
100	105	110	
Arg Cys Met Ile Ser Tyr Gly Ala Asp Tyr Lys Arg Ile Thr	Val		
115	120	125	
Lys Val Asn Ala Pro Tyr Asn Lys Ile Asn Gln Arg Ile	Leu Val Val		
130	135	140	
Asp Pro Val Thr Ser Glu His Glu Leu Thr Cys Gln Ala	Glu Gly Tyr		
145	150	155	160
Pro Lys Ala Glu Val Ile Trp Thr Ser Ser Asp His Gln Val	Leu Ser		
165	170	175	
Gly Lys Thr Thr Thr Asn Ser Lys Arg Glu Glu Lys Leu Phe	Asn		
180	185	190	

Val Thr Ser Thr Leu Arg Ile Asn Thr Thr Asn Glu Ile Phe Tyr  
 195 200 205  
 Cys Thr Phe Arg Arg Leu Asp Pro Glu Glu Asn His Thr Ala Glu Leu  
 210 215 220  
 Val Ile Pro Glu Leu Pro Leu Ala His Pro Pro Asn Glu Arg Thr His  
 225 230 235 240  
 Leu Val Ile Leu Gly Ala Ile Leu Leu Cys Leu Gly Val Ala Leu Thr  
 245 250 255  
 Phe Ile Phe Arg Leu Arg Lys Gly Arg Met Met Asp Val Lys Lys Cys  
 260 265 270  
 Gly Ile Gln Asp Thr Asn Ser Lys Lys Gln Ser Asp Thr His Leu Glu  
 275 280 285  
 Glu Thr  
 290

<210> 18  
 <211> 302  
 <212> PRT  
 <213> Homo sapiens

<400> 18  
 Met Arg Leu Gly Ser Pro Gly Leu Leu Phe Leu Leu Phe Ser Ser Leu  
 1 5 10 15  
 Arg Ala Asp Thr Gln Glu Lys Glu Val Arg Ala Met Val Gly Ser Asp  
 20 25 30  
 Val Glu Leu Ser Cys Ala Cys Pro Glu Gly Ser Arg Phe Asp Leu Asn  
 35 40 45  
 Asp Val Tyr Val Tyr Trp Gln Thr Ser Glu Ser Lys Thr Val Val Thr  
 50 55 60  
 Tyr His Ile Pro Gln Asn Ser Ser Leu Glu Asn Val Asp Ser Arg Tyr  
 65 70 75 80  
 Arg Asn Arg Ala Leu Met Ser Pro Ala Gly Met Leu Arg Gly Asp Phe  
 85 90 95  
 Ser Leu Arg Leu Phe Asn Val Thr Pro Gln Asp Glu Gln Lys Phe His  
 100 105 110  
 Cys Leu Val Leu Ser Gln Ser Leu Gly Phe Gln Glu Val Leu Ser Ile  
 115 120 125  
 Glu Val Thr Leu His Val Ala Ala Asn Phe Ser Val Pro Val Val Ser  
 130 135 140  
 Ala Pro His Ser Pro Ser Gln Asp Glu Leu Thr Phe Thr Cys Thr Ser  
 145 150 155 160  
 Ile Asn Gly Tyr Pro Arg Pro Asn Val Tyr Trp Ile Asn Lys Thr Asp  
 165 170 175  
 Asn Ser Leu Leu Asp Gln Ala Leu Gln Asn Asp Thr Val Phe Leu Asn  
 180 185 190  
 Met Arg Gly Leu Tyr Asp Val Val Ser Val Leu Arg Ile Ala Arg Thr  
 195 200 205  
 Pro Ser Val Asn Ile Gly Cys Cys Ile Glu Asn Val Leu Leu Gln Gln  
 210 215 220  
 Asn Leu Thr Val Gly Ser Gln Thr Gly Asn Asp Ile Gly Glu Arg Asp  
 225 230 235 240  
 Lys Ile Thr Glu Asn Pro Val Ser Thr Gly Glu Lys Asn Ala Ala Thr  
 245 250 255  
 Trp Ser Ile Leu Ala Val Leu Cys Leu Leu Val Val Ala Val Ala  
 260 265 270  
 Ile Gly Trp Val Cys Arg Asp Arg Cys Leu Gln His Ser Tyr Ala Gly  
 275 280 285

Ala Trp Ala Val Ser Pro Glu Thr Glu Leu Thr Gly His Val  
 290 295 300

<210> 19

<211> 227

<212> PRT

<213> Homo sapiens

<400> 19

Ile Ser Gly Arg His Ser Ile Thr Val Thr Thr Val Ala Ser Ala Gly  
 1 5 10 15  
 Asn Ile Gly Glu Asp Gly Ile Leu Ser Cys Thr Phe Glu Pro Asp Ile  
 20 25 30  
 Lys Leu Ser Asp Ile Val Ile Gln Trp Leu Lys Glu Gly Val Leu Gly  
 35 40 45  
 Leu Val His Glu Phe Lys Glu Gly Lys Asp Glu Leu Ser Glu Gln Asp  
 50 55 60  
 Glu Met Phe Arg Gly Arg Thr Ala Val Phe Ala Asp Gln Val Ile Val  
 65 70 75 80  
 Gly Asn Ala Ser Leu Arg Leu Lys Asn Val Gln Leu Thr Asp Ala Gly  
 85 90 95  
 Thr Tyr Lys Cys Tyr Ile Ile Thr Ser Lys Gly Lys Gly Asn Ala Asn  
 100 105 110  
 Leu Glu Tyr Lys Thr Gly Ala Phe Ser Met Pro Glu Val Asn Val Asp  
 115 120 125  
 Tyr Asn Ala Ser Ser Glu Thr Leu Arg Cys Glu Ala Pro Arg Trp Phe  
 130 135 140  
 Pro Gln Pro Thr Val Val Trp Ala Ser Gln Val Asp Gln Gly Ala Asn  
 145 150 155 160  
 Phe Ser Glu Val Ser Asn Thr Ser Phe Glu Leu Asn Ser Glu Asn Val  
 165 170 175  
 Thr Met Lys Val Val Ser Val Leu Tyr Asn Val Thr Ile Asn Asn Thr  
 180 185 190  
 Tyr Ser Cys Met Ile Glu Asn Asp Ile Ala Lys Ala Thr Gly Asp Ile  
 195 200 205  
 Lys Val Thr Glu Ser Glu Ile Lys Arg Arg Ser His Leu Gln Leu Leu  
 210 215 220  
 Asn Ser Lys  
 225

<210> 20

<211> 215

<212> PRT

<213> Homo sapiens

<400> 20

Gln Val Pro Glu Asp Pro Val Val Ala Leu Val Gly Thr Asp Ala Thr  
 1 5 10 15  
 Leu Cys Cys Ser Phe Ser Pro Glu Pro Gly Phe Ser Leu Ala Gln Leu  
 20 25 30  
 Asn Leu Ile Trp Gln Leu Thr Asp Thr Lys Gln Leu Val His Ser Phe  
 35 40 45  
 Ala Glu Gly Gln Asp Gln Gly Ser Ala Tyr Ala Asn Arg Thr Ala Leu  
 50 55 60  
 Phe Pro Asp Leu Leu Ala Gln Gly Asn Ala Ser Leu Arg Leu Gln Arg  
 65 70 75 80  
 Val Arg Val Ala Asp Glu Gly Ser Phe Thr Cys Phe Val Ser Ile Arg

85 . . . 90 . . . 95  
Asp Phe Gly Ser Ala Aia Val Ser Leu Gln Val Ala Ala Pro Tyr Ser  
100 105 110  
Lys Pro Ser Met Thr Leu Glu Pro Asn Lys Asp Leu Arg Pro Gly Asp  
115 120 125  
Thr Val Thr Ile Thr Cys Pro Ser Tyr Arg Gly Tyr Pro Glu Ala Glu  
130 135 140  
Val Phe Trp Gln Asp Gly Gln Gly Val Pro Leu Thr Gly Asn Val Thr  
145 150 155 160  
Thr Ser Gln Met Ala Asn Glu Gln Gly Leu Phe Asp Val His Ser Val  
165 170 175  
Leu Arg Val Val Leu Gly Ala Asn Gly Thr Tyr Ser Cys Leu Val Arg  
180 185 190  
Asn Pro Val Leu Gln Gln Asp Ala His Gly Ser Val Thr Ile Thr Gly  
195 200 205  
Gln Pro Met Thr Phe Pro Pro  
210 215

<210> 21  
<211> 226  
<212> PRT  
<213> Homo sapiens

<400> 21  
Leu Asn Phe Phe Gln Leu Leu Val Leu Ala Gly Leu Ser His Phe Cys  
1 5 10 15  
Ser Gly Val Ile His Val Thr Lys Glu Val Lys Glu Val Ala Thr Leu  
20 25 30  
Ser Cys Gly His Asn Val Ser Val Glu Glu Leu Ala Gln Thr Arg Ile  
35 40 45  
Tyr Trp Gln Lys Glu Lys Lys Met Val Leu Thr Met Met Ser Gly Asp  
50 55 60  
Met Asn Ile Trp Pro Glu Tyr Lys Asn Arg Thr Ile Phe Asp Ile Thr  
65 70 75 80  
Asn Asn Leu Ser Ile Val Ile Leu Ala Leu Arg Pro Ser Asp Glu Gly  
85 90 95  
Thr Tyr Glu Cys Val Val Leu Lys Tyr Glu Lys Asp Ala Phe Lys Arg  
100 105 110  
Glu His Leu Ala Glu Val Thr Leu Ser Val Lys Ala Asp Phe Pro Thr  
115 120 125  
Pro Ser Ile Ser Asp Phe Glu Ile Pro Thr Ser Asn Ile Arg Arg Ile  
130 135 140  
Ile Cys Ser Thr Ser Gly Gly Phe Pro Glu Pro His Leu Ser Trp Leu  
145 150 155 160  
Glu Asn Gly Glu Glu Leu Asn Ala Ile Asn Thr Thr Val Ser Gln Asp  
165 170 175  
Pro Glu Thr Glu Leu Tyr Ala Val Ser Ser Lys Leu Asp Phe Asn Met  
180 185 190  
Thr Thr Asn His Ser Phe Met Cys Leu Ile Lys Tyr Gly His Leu Arg  
195 200 205  
Val Asn Gln Thr Phe Asn Trp Asn Thr Thr Lys Gln Glu His Phe Pro  
210 215 220  
Asp Asn  
225

<210> 22  
<211> 219

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 22

Gln	Ala	Tyr	Phe	Asn	Glu	Thr	Ala	Asp	Leu	Pro	Cys	Gln	Phe	Ala	Asn
1				5					10				15		
Ser	Gln	Asn	Gln	Ser	Leu	Ser	Glu	Leu	Val	Val	Phe	Trp	Gln	Asp	Gln
				20				25					30		
Glu	Asn	Leu	Val	Leu	Asn	Glu	Val	Tyr	Leu	Gly	Lys	Glu	Lys	Phe	Asp
					35				40			45			
Ser	Val	His	Ser	Lys	Tyr	Met	Gly	Arg	Thr	Ser	Phe	Asp	Ser	Asp	Ser
					50			55			60				
Trp	Thr	Leu	Arg	Leu	His	Asn	Leu	Gln	Ile	Lys	Asp	Lys	Gly	Leu	Tyr
					65			70		75			80		
Gln	Cys	Ile	Ile	His	His	Lys	Lys	Pro	Thr	Gly	Met	Ile	Arg	Ile	His
					85				90			95			
Gln	Met	Asn	Ser	Glu	Leu	Ser	Val	Leu	Ala	Asn	Phe	Ser	Gln	Pro	Glu
					100			105			110				
Ile	Val	Pro	Ile	Ser	Asn	Ile	Thr	Glu	Asn	Va	Tyr	Ile	Asn	Leu	Thr
					115			120			125				
Cys	Ser	Ser	Ile	His	Gly	Tyr	Pro	Glu	Pro	Lys	Lys	Met	Ser	Val	Leu
					130			135			140				
Leu	Arg	Thr	Lys	Asn	Ser	Thr	Ile	Glu	Tyr	Asp	Gly	Ile	Met	Gln	Lys
					145			150		155			160		
Ser	Gln	Asp	Asn	Val	Thr	Glu	Leu	Tyr	Asp	Val	Ser	Ile	Ser	Leu	Ser
					165				170			175			
Val	Ser	Phe	Pro	Asp	Val	Thr	Ser	Asn	Met	Thr	Ile	Phe	Cys	Ile	Leu
					180			185			190				
Glu	Thr	Asp	Lys	Thr	Arg	Leu	Leu	Ser	Ser	Pro	Phe	Ser	Ile	Glu	Leu
					195			200			205				
Glu	Asp	Pro	Gln	Pro	Pro	Asp	His	Ile	Pro						
					210			215							

&lt;210&gt; 23

&lt;211&gt; 220

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 23

Val	Thr	Val	Pro	Lys	Asp	Leu	Tyr	Val	Val	Glu	Tyr	Gly	Ser	Asn	Met
1				5				10				15			
Thr	Ile	Glu	Cys	Lys	Phe	Pro	Val	Glu	Lys	Gln	Leu	Asp	Leu	Ala	Ala
					20			25			30				
Leu	Ile	Val	Tyr	Trp	Glu	Met	Glu	Asp	Lys	Asn	Ile	Ile	Gln	Phe	Val
					35			40			45				
His	Gly	Glu	Glu	Asp	Leu	Lys	Val	Gln	His	Ser	Ser	Tyr	Arg	Gln	Arg
					50			55			60				
Ala	Arg	Leu	Leu	Lys	Asp	Gln	Leu	Ser	Leu	Gly	Asn	Ala	Ala	Leu	Gln
					65			70		75		80			
Ile	Thr	Asp	Val	Lys	Leu	Gln	Asp	Ala	Gly	Val	Tyr	Arg	Cys	Met	Ile
					85			90			95				
Ser	Tyr	Gly	Gly	Ala	Asp	Tyr	Lys	Arg	Ile	Thr	Val	Lys	Val	Asn	Ala
					100			105			110				
Pro	Tyr	Asn	Lys	Ile	Asn	Gln	Arg	Ile	Leu	Val	Val	Asp	Pro	Val	Thr
					115			120			125				
Ser	Glu	His	Glu	Leu	Thr	Cys	Gln	Ala	Glu	Gly	Tyr	Pro	Lys	Ala	Glu
					130			135			140				

Val Ile Trp Thr Ser Ser Asp His Gln Val Leu Ser Gly Lys Thr Thr  
145 150 155 160  
Thr Thr Asn Ser Lys Arg Glu Glu Lys Leu Phe Asn Val Thr Ser Thr  
165 170 175  
Leu Arg Ile Asn Thr Thr Asn Glu Ile Phe Tyr Cys Thr Phe Arg  
180 185 190  
Arg Leu Asp Pro Glu Glu Asn His Thr Ala Glu Leu Val Ile Pro Glu  
195 200 205  
Leu Pro Leu Ala His Pro Pro Asn Glu Arg Thr His  
210 215 220